UNITED STATES MARINE CORPS
Financial Management School
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STUDENT OUTLINE

INTRODUCTION TO SMARTS

LEARNING OBJECTIVES:

1. <u>TERMINAL LEARNING OBJECTIVE</u>:With the aid of references and given a PC with access to "SABRS MANAGEMENT ANALYTICAL RETRIEVAL TOOL SYSTEM"(SMARTS), design and produce financial management reports in accordance with the references. <u>ITS# 3451.2.21</u>

2. <u>ENABLING LEARNING OBJECTIVES</u>:

  (a) Without the aid of references and given a PC loaded with the appropriate software, access "SMARTS" in accordance with the IMPROMPTU 5.0 student guide.

  (b) With the aid of references and given a PC with access to "SMARTS", generate a basic report layout in accordance with the IMPROMPTU 5.0 student guide.

  (c) With the aid of references and given a PC with access to "SMARTS", execute a catalogue data retrieval in accordance with the IMPROMPTU 5.0 student guide.

  (d) With the aid of references and given a PC with access to "SMARTS", apply sort, group and filter functions to data elements in a report in accordance with the IMPROMPTU 5.0 student guide.

  (e) With the aid of references and given a PC with access to "SMARTS", create a chart utilizing data retrieved in accordance with the IMPROMPTU 5.0 student guide.

(f) With the aid of references and given a PC with access to "SMARTS", print and save report in accordance with the IMPROMPTU 5.0 student guide.

1. SMARTS OVERVIEW:

a. SMARTS (SABRS MANAGEMENT ANALYTICAL & RETRIEVAL TOOLS SYSTEM) is a query database retrieval program that allows users to retrieve information downloaded into catalogues. These catalogues are based off of the SABRS data files. This program application was implemented to replace adhoc's (natural programming based reports) as well as provide more specialized reports not available in the InfoPac (Information Package) reports program.

b. The SMARTS application enables a user to not only retrieve data resident within SABRS data files, but more specifically allows users to pick and choose what information will be retrieved, and what sorting and grouping conditions will be applied to the gathering of data. Additionally the user can define the format for viewing.

c. SMARTS, provides technical support to allow Marine Corps Customers and DFAS personnel simplified access to financial, accounting, and budgeting information in a cost effective and timely manner.

2. ACCESSING SMARTS:

a. Before any designing or building of a report, we will need to access the program (Impromptu 5.0) that will enable us to use the SMARTS program. There are a limited number of accesses granted to each command or comptroller section, this is due to licensing restrictions between DOD and Cognos (the Company that created Impromptu 5.0).

b. The first step to accessing SMARTS is to log onto the share server, in this case Windows NT. Once you are logged into the server, you will need to locate the start icon located at the lower left hand corner of the screen. Click on the option that reads "Programs". The next pop up window will provide a list of programs

loaded to the PC, find the "Cognos" program and click it with the left mouse button or highlight with a single click of left mouse button then press enter. A third pop up screen list appears, this list will show all the programs loaded to the PC under the "Cognos" directory. Find the "Impromptu User" and double click on it to enter.

    c. The next step will be to open a catalogue (**Current SABRS version available**). Double click the catalogue version and the next screen that appears will be the User ID and Password log on window. Logon to view the report format selection menu.

3. <u>**DESIGNING AND SELECTING A REPORT FORMAT LAYOUT:**</u>

    a. The ability to design and build reports enables users the ability to ensure that they are receiving the data they require and in the format they desire. In order to build reports there are some key points that must be taken into consideration, they are:

        1. Desired report format.
        2. Desired report content. (**Discussed later in section 4**)
        3. Desired organization (sort, group and filter functions). (**Discussed later sect. 5**)
        4. Determination of charts & graphs requirement. (**Discussed later sect. 6**)
        5. Requirements for printing and saving reports. (**Discussed later sect. 7**)

    b. With key points considered, the next step is to map out an outline or rough draft of the desired format. Understanding what type of report you'll need and how the data retrieved will be formatted is critical. Such as: list report; which may be used for example for a transaction listing. Grouped list report; which can provide a report of listed information based on a grouping criterion set by user. Cross tabulation report; a cross tabulation report summarizes information in tabular format, showing a value at the intersecting point of each row and column. Let's move into a little more detail about what are the steps you'll need to use in order to build a report and retrieve the data you require.

    c. Rough draft or outline of desired report having been completed, you will now have to build the report within the SMARTS program. This process is a step- by- step procedure.

1. Choose report format (List, Grouped List, Cross Tabulation etc…).
2. Open the catalogue(s) that have the items required for data retrieval.
3. Sort the data according to your preference.
4. Group data according to summary requirements.
5. Create filters to streamline and define specific data desired.
6. Adjust figures and labels accordingly (preference)

    d. The program will take anywhere from a couple of seconds to possibly a couple of hours to retrieve the data requested. You will be able to monitor the programs retrieval by watching the little swimming fish icon bar in the lower right corner of the screen, the faster it swims back and forth the quicker the retrieval is going, conversely the slower it swims the longer it will take your data to be provided.

    e. Once the report "data view" is presented, you will want to review the data to ensure the data you set for retrieval has been properly retrieved. Data will be retrieved according to the limitations you set. The more you limit the data to specific terms the longer it will take to retrieve, however the less adjusting will be required when data is provided for viewing.

    f. Data view page has now been reviewed, let's look at the report page. The report page may have to be adjusted (Margins and column widths are common adjustments).

4. **CATALOGUES (DATA FILES)**

    a. Data files in SABRS contain system table data, manual input data, and system interface data. The data files mapped from SABRS 2/3 are the General Ledger file, Fund Control Spend File, Cost Account File, Active File, Error Transaction File, DNR/IDB Error/ Unmatched Files, RON/RBC/RBD Files and Labor Files. The manual input data will provide such data as authorizations, commitments, obligations, expenditures and document details. The system interface data contains information such as liquidations and transaction details like dates. System table data contains information on accounting data elements, for example, the elements of a FIP.

b. The data contained within the SMARTS catalogue are further broken down into smaller catalogues or data files. These smaller catalogues or data files contain the data elements you'll be using when constructing your reports. The following is a partial list of catalogues from which fields may be selected for use in a report:

1. Fund Control Spend File
2. Cost Account File
3. Active File
4. Error Transaction file
5. DNR/IDB Error/Unmatched Files

c. The catalogues have numerous selections to choose from. The data requirement will dictate what catalogues you will use (**See Student Handout FMCC 0313 pages_3__ for complete list of catalogues and data elements contained within each catalogue**). Once you have established which data elements you'll require, you will have to decide what order and to what level you will want them organized for display on the report.

5. <u>APPLYING FILTER/SORT/AND GROUP FUNCTIONS:</u>

a. <u>**FILTER FUNCTIONS:**</u> A filter is a set of criteria that you apply to a report to change the focus of a report. Filters are based on expressions (conditions), which result in a true-false value (when a found set of data in the query meets the criteria of the expression, it's data is included in the report).

1.) To understand how a filter query is processed, it's helpful to understand the logic of "and/or". To perform a query (lookup / retrieve)of data with different values, from within the same column use the filter expression of "**or**". For example: BEA = '01' "**or**" BEA = '02' **or** BEA = '03'. A more detailed type of filter would include the expression of "**and**". For example: BEA = '01' **and** BESA = '01 **and** FC = 'BF'.

2.) SMARTS filters enable users to establish preset conditional functions or delimiters that will result in the program performing specific tasks or functions automatically such as, finding all documents that belong to a specific AAC, BCN, or BEA.

b. <u>**SORT FUNCTION:**</u>Sort is a function provided in Impromptu 5.0, which allows users to place data into a specific organizational sequence. Sorting is accomplished by placing the cursor on the

data element desired for sequential ordering and using the left
mouse button clicking on it.

      1.)   Sorting data is often a desired setting when
displaying most any type of data. Example of data being sorted is
when data is put in numerical or alphabetical sequence, or in the
case of SMARTS maybe putting the data into document number
sequence.

      c. **GROUP FUNCTION:** Group is a function provided in Impromptu
5.0, which allows users to place sorted or unsorted data into a
specific hierarchy of organization. Grouping is accomplished by
placing the cursor on the data element desired for sequential
ordering and using the left mouse button clicking on it.

      1.)   Grouping data is often used to display a dataset
that may have different individual qualities but all fall within a
particular heading. Example of data being grouped is when data is
put in numerical or alphabetical sequence, and then placed under
another group. In the case of SMARTS this might be used to
organize report data consisting of several BEA's (Budget Execution
Activities) that may fall under several different WCI's (Work
Center Id's).

6.   **CHARTS CREATED IN SMARTS** :

      a. Charts are a graphical representation of data, allowing you
to quickly and easily evaluate information. Chart data is easy to
read and interpret, allowing you to uncover trends or exceptions.
When using charts in Impromptu 5.0, the SMARTS data displayed is
updated automatically every time you open the report.

      b.   Charts should represent summary values if grouping exists
in the report. However, when a report contains grouped data that
has not been summarized, the chart will display only the first row
of each group.To create a chart the following steps must be
followed:

      1.) From the insert menu, select chart frame.
      2.) From the format menu, click properties and click
format tab.
      3.) In the select box, click the center of the chart.
      4.) In the chart style box, select the type of chart you
want and click "OK".

      a.) To compare parts to a whole, use a pie chart.

b.)	To compare variables, use a bar chart.

c.)	To compare trends in data over time, use an area chart.

d.)	To compare trends and relationships between data, use a line chart.

e.)	To compare the difference between pairs of values, use a High-Low-Close-Open (HLCO) chart.

f.)	To create a graphical view of a project schedule, use a Gantt chart.

g.)	To highlight trends, use a radar chart

h.)	To identify a pattern, use a scatter chart

7.	**PRINTING AND SAVING REPORTS IN SMARTS**:

a.	**PRINTING A REPORT:** Reports are a wonderful asset, however there are a few things that keep reports in demand. The ability to continually produce a report with the same or updated information is vital especially if multiple copies are required. Impromptu 5.0 enables users to print reports on demand, as well as save reports to a unique file name.

1.)	The main point to printing is ensuring the data and format is appearing correctly before you print. To check the report you'll need to view the data on the report. Viewing the report is nothing more than looking at the entire report from beginning to end looking for possible adjustments or data that didn't display in the format you thought you had created. If data needs adjusting or correction, just go back to that portion of the report that is in error and change the data format or report format, as discussed earlier in this class, to reflect the desired results.

2.)	To print reports the following steps are performed:

a.)	From the print preview command, review your report page by page.

b.)	From the page setup command, set margins, insert headers and footers and set where to start a new page.

c.)	From the print set up dialog box, choose the printer, the page orientation, the size and source of paper, as well as fonts-graphics and memory options.

3.)	Using the print command:

a.) You can, select all pages or a range of pages to print.
b.) You can, select the print quality of your report.
c.) You can, specify the number of copies to print and collate if desired.

b. __SAVING A REPORT:__ The ability to save a SMARTS report enables users to compare historical data to the updated data in Impromptu 5.0. There are a few ways in which the reports may be saved, they are: snapshots, and export or save as.

1.) The first method to saving a report that we will discuss is called a snapshot. A snap shot is a permanent local copy of the data in your report, like a photograph, it captures the data as it existed when you created the snapshot. A snapshot allows the user to, save historical data that under normal circumstances would be updated or lost, access and manipulate data when you are unable to attach to the database, minimize data processing time, give a report to someone who has no access to the data, email a report and it's data to someone as a file attachment. You can drag and drop to move parts of a report within a snapshot. Users can Ctrl+Drag to make copies of parts of a report. An example of how a snapshot might be used is to perform a snapshot of your current report and use it to compare next months updated report. To create a snapshot save:

a.) From the report menu, click query and click access tab.
b.) In the data source box, click the local snapshot option button and click OK.
c.) To quickly create a snapshot, click the snapshot button on the tool bar. (The button looks like a miniature camera).
d.) To save your report as a snapshot, click the save as command from the file menu and click the save as snapshot with the report check box.

2.) The second method saving a report is called an export and or save as. An export is saving data as another file format (dbase, ASCII, Excel, Hot file, Lotus 123, text, SQL etc…) that are available in Impromptu 5.0. Saving your data in the format of another file format is one way to keep a permanent copy of the current data. An example of when you would export data might be when a user saves report data, (like an error report) to an excel spreadsheet to further send to specific personnel for

manipulation and analysis. To create an export and/or save as
report, the following steps are accomplished:

        a.) From the file menu, click, "save as".
        b.) Locate the folder where you want to save the
file.
        c.) In the File Name Box, type a name for the file.
        d.) In the save as type box, select the file format
you want.

        1.) When save as an excel file, you save the
data only. The excel field names are based on the data item titles
in the Impromptu report.
        2.) When you save as a Lotus 123 file or
HotFile file, you save the data only.
        3.) When you save as a Dbase file, you save
the data only. The dbase field names are based on the data items
listed in the data tab (query dialog box).
        4.) When you save as a delimited ASCII file,
you save the data only.
        5.) When you save as an SQL file, you save the
SQL statements that Impromptu uses to retrieve the data.
        6.) When you save as a text file, you save the
data and the column titles.

        e.) If you save the report as a dBase, Lotus 123, or
Delimited ASCII file, click   options to set options on how to
export the file.
        f.) Click save.

        Note: Impromptu makes a copy of the existing file
        and stores it in the folder you selected, using the
        file name you typed and the extension that matches
        the new format. The original Impromptu version of
        the report or template remains open on your screen.

REFERENCES:

1. IMPROMPTU 5.0 STUDENT GUIDE